

along the margins and nerves; panicles simple, 2–6 cm. long, occasionally somewhat glomerate, the closely flowered short branches appressed, usually partly enclosed in the subtending leaf-sheath; pedicels scabrous, usually much shorter than the spikelets; spikelets ovate-lanceolate; glumes lanceolate, acute or acuminate-pointed, subequal, a little shorter than, as long as, or a little longer than the floret, scabrous on the keel excepting near the base; lemmas ovate or oblong, obtuse or submucronate-pointed, scabrous on the keel and lateral nerves above, otherwise smooth, no hairs at the base; palea ovate-oblong, obtuse, equalling or a little shorter than the lemmas.

Type, no. 5 *J. Reverchon*, from Texas in the National Herbarium. Other specimens are from Illinois, *J. Wolf* and *E. Hall*. Hall's specimen is presumably from Athens in 1868 and was first referred to *M. sylvatica* by Vasey, who later regarded it as a doubtful variety of *M. mexicana*. The culms are branching throughout and the numerous small panicles terminating the branches and partly included in the subtending leaf-sheaths present the habit of *M. mexicana*, but the plant is more slender throughout especially in its panicles, the texture of the glumes and lemmas is much softer and the latter are perfectly smooth at the base there being no hairs either upon the callus or on the body of the lemma. The spikelets are rather those of a *Sporobolus* than a *Muhlenbergia* but the plant evidently belongs with the soboliferous species of the latter.

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THE ALPINE RHINANTHUS OF QUEBEC AND NEW HAMPSHIRE.

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THE plants which have long passed in eastern America as *Rhinanthus Crista-galli* L., in part (*R. minor* Ehrh.), occupy two strikingly different geographic areas. One, apparently the true *R. Crista-galli* (*R. minor*), abounds in sterile fields and meadows, and along road-

sides and borders of thickets in eastern Quebec and Newfoundland, chiefly near the coast, and extends thence southward along the New England coast. The other has long been known in alpine regions of the White Mountains, and in 1881 it was collected by Mr. John A. Allen upon Table-topped Mountain in Gaspé Co., Quebec.

The writer has long felt that the plant of Oakes Gulf and the Alpine Garden in the White Mountains and of Table-topped Mountain in Gaspé should not be regarded as identical with the coastal *Rhinanthus Crista-galli*, but not until the past summer has he had an opportunity to test his convictions by study in the field of the alpine plant. In August last, however, this *Rhinanthus* was found in profusion on cool boggy meadows and open slopes at altitudes varying from 950 to 1125 meters, on Table-topped Mountain. It was most abundant in meadows, where it was associated with *Phleum alpinum*, *Deschampsia atropurpurea*, *Juncu castaneus*, *Salix vestita*, *S. argyrocarpa*, *Rubus arcticus*, *Pyrola grandiflora*, *Veronica alpina*, var. *unalaschcensis*, *Castilleja pallida*, var. *septentrionalis*, *Gnaphalium norvegicum*, and other arctic-alpine species, with some of which it occurs in the White Mountains. Abundant flowering and fruiting material was secured, and notes were made from the fresh plant, which, upon the return to the shores of the lower St. Lawrence, showed that the alpine *Rhinanthus* is clearly distinct from the common coastal *R. Crista-galli*. A detailed study of this and of the other species of *Rhinanthus* of America and of northern Europe, as recently defined in the works of Chabert, Sterneck, and others, shows, furthermore, that the plant of the White Mountains and of Table-topped Mountain is apparently an undescribed species, and that it occurs also on the coast of Labrador. This plant, from the characteristic outline of the cauline leaves may be called

RHINANTHUS oblongifolius, n. sp. Planta 0.6–4 dm. alta viridis basi glabra superne ad internodiorum latera pilosa simplex; foliis caulinis quam internodia brevioribus oblongis vel in speciminibus minoribus linearibus scabridis obtusis crenato-dentatis, dentibus latis appressis; spicis 2–12-floris; bracteis scabris, infimis foliis supremis similibus, mediis et superioribus triangulari-ovatis attenuatis calycem subaequantibus laciniato-dentatis, dentibus inferioribus patulis aristato-acuminatis quam superiores longioribus; calyce florifero ovato-oblongo fructifero suborbiculato 1.3–1.9 cm. longo glabrescente, marginibus ciliatis; corolla flava 1–1.2 cm. longa, tuba recta exserta; labia superiore 3–4 mm. longa, margine inferiore convexo dentibus flavis oblique quadrilateralibus subtruncatis 0.5 mm. longis, 1.5 mm. latis;

abia inferiore 1 mm. longa flava vel raro violacea; seminibus reniformibus 5–6 mm. longis 3.5 mm. latis olivaceis, alis dorsalibus membranaceis, ventralibus obscuris.

Plant 0.6–4 dm. high, green, glabrous at base, pilose along the sides of the internodes above, simple: cauline leaves shorter than the internodes, oblong, or in very small specimens linear, scabrid, obtuse, crenate-dentate; the teeth broad and appressed: spikes 2–12-flowered: bracts scabrous, the lower similar to the upper leaves, the middle and upper triangular-ovate, attenuate, about equalling the calyx, laciniatedentate; the lower teeth spreading, aristate-acuminate, longer than the upper: flowering calyx ovate-oblong; fruiting suborbicular, 1.3–1.9 cm. long, glabrescent, the margins ciliate: corolla yellow, 1–1.2 cm. long, the straight tube exerted; the upper lip 3–4 mm. long, its lower margin convex, the teeth yellow, obliquely quadrilateral, subtruncate, 0.5 mm. long, 1.5 mm. broad; the lower lip 1 mm. long, yellow or rarely violaceous: seeds reniform, 5–6 mm. long 3.5 mm. wide, olive-brown, the dorsal wing membranaceous, the ventral obscure.—QUEBEC, common on alpine meadows and slopes, altitude 950–1125 m., Table-topped Mountain, Gaspé Co., August 7, 1906 (*Fernald & Collins*, no. 248), August 12, 1881 (*J. A. Allen*): NEW HAMPSHIRE, “in alpinis Montium Alborum” (*Wm. Oakes*); “White Mount. in locis humidis alpinis cum *Veronica alpina* et caet,” 1843 (*E. Tuckerman*); head of Oakes Gulf, August 28, 1877, August 29, 1890 (*E. & C. E. Faxon*); moist grassy soil, edge of Oakes Gulf, August 8, 1896 (*E. F. Williams*); Lion’s Head, Alpine Garden, Mt. Washington, September 1, 1890 (*E. & C. E. Faxon*). Various specimens from the Labrador coast are apparently referable here.

From the essentially coastal *Rhinanthus Crista-galli* of New England and the Maritime Provinces *R. oblongifolius* is distinguished by several characters. In the coastal plant the leaves are narrower, lance- or linear-attenuate, and sharply serrate with more spreading teeth; and in drying the stems and foliage become strongly blackened. *R. oblongifolius*, with oblong crenate-toothed leaves, on the other hand, retains its green color even in the old specimens of Oakes. In *R. Crista-galli* the lateral teeth of the upper lip of the corolla are about as long as broad and dark-colored; in *R. oblongifolius* much broader than long and yellow. In *R. Crista-galli* the ventral wing of the seed is conspicuously thickened and clearly defined; in the seed of *R. oblongifolius* it is only slightly thickened and less clearly defined.